

NINDS CDE Notice of Copyright
Bayley Scale of Infant Development (Bayley III, BSID)

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| Availability: | <p>The copyright for this test is owned by Pearson Education, Inc.</p> <p>Please click here for permission requests or here more information about pricing and ordering:</p> <p>Bayley Scales of Infant and Toddler Development®, Third Edition (Bayley-III®)</p> |
| Classification: | <p>Supplemental – Highly Recommended for:</p> <p>Congenital Muscular Dystrophy (CMD):</p> <ul style="list-style-type: none"> • Highly recommended for developmental, psychological, and neuropsychological studies of infants and toddlers up to 42 months old. • Highly recommended as a means of characterizing study participants. <p>Supplemental for: Epilepsy, Mitochondrial Disease (Mito), Neuromuscular Disease (NMD), Spinal Muscular Atrophy (SMA), Stroke, and Traumatic Brain Injury (TBI).</p> |
| Short Description of Instrument: | <p>Purpose:</p> <p>The Bayley Scales of Infant and Toddler Development, Third Edition (Bayley-III) measure the cognitive, language, and motor development and test the behavior of infants and toddlers from one to 42 months of age. The Bayley is used to describe the current developmental functioning of infants and toddlers and to assist in diagnosis and treatment planning for infants with developmental delays or disabilities. It is frequently used in research to describe the developmental status of children with particular medical conditions and developmental disabilities.</p> <p>Overview:</p> <p>The Bayley Scales were first published by Nancy Bayley in <i>The Bayley Scales of Infant Development</i> (1969), with a second edition in 1993 and the current edition published in 2005. The scales have been used extensively worldwide to assess the development of infants and toddlers. It is the most commonly used measure of development in this age range in both clinical and research settings. It is administered by examiners who are experienced clinicians specifically trained in Bayley test procedures. The examiner presents a series of test materials to the child and observes the child's responses and behaviors. The test contains items designed to identify young children at risk for developmental delay.</p> <p>The Bayley evaluates individuals along three primary scales: Cognitive scale; Language scale with Receptive Language and Expressive Language subscales; and the Motor Scale with Fine Motor and Gross Motor subscales.</p> <p>There is an associated Bayley Scales Social-Emotional and Adaptive Behavior Questionnaire that can be completed by a parent or caregiver to assess the child's functioning with respect to social and emotional development and behavior as well as independence with daily living skills and other adaptive behavior.</p> <p>Mito WG comments: This is a screening tool for identifying children that are in need of early intervention and for most of the upper range of scores, cannot predict future IQ. It was not created using children with pre-existing disabilities, so may not be appropriate for most mitochondrial studies. It may be appropriate, for example, in a study of siblings with pre-clinical mutations, but not in a trial of children with Leigh syndrome, who likely have had major developmental problems that led to the diagnosis.</p> |

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| Timing / Scoring / Psychometric Properties: | <p>Time to Administer:</p> <p>The test is given on an individual basis and takes 30-90 minutes to complete depending on the age of the child.</p> <p>Scoring:</p> <p>Raw scores of successfully completed items are converted to subtest scaled scores and to composite standard scores. These scores are used to determine the child's performance compared with normative group of typically developing children of their age (in months).</p> <p>Global measure of all cognitive development: language, motor.</p> <p>Time to administer: 30 to 90 minutes (depending upon age of child)</p> <p>Psychometric Properties: The Bayley Scales are known to have high reliability and validity.</p> <p>Standardization Sample:</p> <p>Ages 16 days to 42 months 15 days Standardization Sample n = 1,700 Social-Emotional Scale n = 456 Adaptive Behavior Scale n = 1350</p> <p>Stratification:</p> <p>Normed per United States sample collected from January to October 2004, with stratification by: age, sex, race/ethnicity, parent education level, geographic region.</p> <p>Norms were established using samples that did not include disabled, premature, and other at-risk children. Corrected scores are sometimes used to evaluate these groups, but their use remains controversial. The Bayley has relatively poor predictive value to later IQ scores, unless the scores are very low. It is considered a good screening device for identifying children in need of early intervention. Scores do not represent IQs.</p> <p>Validity Studies:</p> <p>Validity studies with clinical groups Comparison studies with major tests</p> <p>Average Reliability:</p> <p>GAC .97 Social-Emotional .90 Motor .92 Language .93 Cognitive .91</p> |
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| Recommendations / Comments: | <p>CMD:</p> <p>The Bayley III/BSID is the most commonly used measure of development in this age range in both clinical and research settings.</p> <p>Mitochondrial Disease:</p> <p>Recommended for studies involving developmental, psychological, and neuropsychological measures of infants and toddlers up to 42 months old. This is a screening tool for identifying children that are in need of early intervention and for most of the upper range of scores, cannot predict future IQ. It was not created using children with pre-existing disabilities, so may not be appropriate for most mitochondrial studies. It may be appropriate, for example, in a study of siblings with pre-clinical mutations, but not in a trial of children with Leigh syndrome, who likely have had major developmental problems that led to the diagnosis.</p> <p>Note: For children any older than 42 months of age, this becomes less relevant. It is an infant development scale. If the study involved children with pre-study disabilities, it is not likely to be relevant or useful.</p> <p>Administration Requirements: MA (psychologist, OT, speech pathologist, social work, special ed) or BA Occupational therapies with certification.</p> |
| Reliability References | <p>Bayley, N. (2006) Bayley scales of infant and toddler development-third edition, Technical manual. Pearson/Psych Corp.</p> <p>Yu YT, Hsieh WS, Hsu CH, Chen LC, Lee WT, Chiu NC, Wu YC, Jeng SF (2013). A psychometric study of the Bayley Scales of Infant and Toddler Development - 3rd Edition for term and preterm Taiwanese infants. <i>Res Dev Disabil.</i> Nov;34(11):3875-83</p> |

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| References: | <p>Bayley, N. (1969). <i>Manual for the Bayley scales of infant development</i>. San Antonio, TX: The Psychological Corporation.</p> <p>Bayley, N. (1993). <i>Bayley scales of infant development—Second edition</i>. San Antonio, TX: The Psychological Corporation.</p> <p>Bayley, N. (2006). <i>Bayley scales of infant and toddler development, third edition</i>. San Antonio, TX: Harcourt Assessment, Inc.</p> <p>Demeter, K. (2000). Assessing the developmental level in Rett syndrome: an alternative approach? <i>European Child & Adolescent Psychiatry</i>, 9, 227–233.</p> <p>DeWitt, M. B., Schreck, K. A., & Mulick, J. A. (1998). Use of Bayley scales in individuals with profound mental retardation: Comparison of the first and second editions. <i>Journal of Developmental and Physical Disabilities</i>, 10(3), 307–313.</p> <p>Harrison, P. L., & Oakland, T. (2003). <i>Adaptive behavior assessment system—Second edition</i>. San Antonio, TX: The Psychological Corporation.</p> <p>CMD:</p> <p>Palma da Cunha Matta, A. & de Castro Diniz Gonsalves, M. Merosin-positive congenital muscular dystrophy, <i>Arq Neuropsiquiatr</i> 2007;65(1):167-169.</p> <p>Kim H.J., Choi, Y.C., Park, H.J., Lee, Y.M., Kim, H.D., Lee, J.S., Kang, H.C. (Mar, 2014). Congenital muscular dystrophy type 1A with residual merosin expression. <i>Korean J Pediatr</i>. 57(3):149-52. 31.</p> <p>Stroke:</p> <p>Laberge, M. (2006). Bayley Scales of Infant Development. Gale Encyclopedia of Children's Health: Infancy through Adolescence. Retrieved July 9, 2010, from <i>Encyclopedia.com</i>. Click here for the encyclopedia website.</p> <p>Black, M. B., & Matula, K. (1999). <i>Essentials of Bayley Scales of Infant Development II Assessment</i>. ISBN: 978-0-471-32651-9</p> <p>Vance L.K., Needelman H., Troia K., & Ryalls B.O. (1999). <i>Scales of Infant Development and Play-Based Assessment in Two-Year Old At-Risk Children</i>, University of Nebraska-Omaha. <i>USA Developmental Disabilities Bulletin</i>, Vol. 27 (1)</p> <p>Hack M, Taylor HG, Drotar D, Schluchter M, Cartar L, Wilson-Costello D, Klein N, Friedman H, Mercuri-Minich N, & Morrow M. (2005). Poor predictive validity of the Bayley Scales of Infant Development for cognitive function of extremely low birth weight children at school age. <i>Pediatrics</i>, 116(2):333-41</p> <p>Additional Considerations:</p> <p>The Bayley–III may be more ideal than the WPPSI–III for evaluating cognitive ability in low-functioning children in the 30–42 months age range because it provides an extended floor.</p> <p>TBI:</p> <p>Bayley, N. (2005). <i>Bayley Scales of Infant and Toddler Development (Third ed.)</i>. Psychological Corporation: San Antonio, TX.</p> <p>Mullen, E. (1995). <i>Mullen scales of early learning</i>. American Guidance Service, Inc.: Circle Pines, MN.</p> |
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| References Continued: | <p>Badr, L. (2009). Statistical versus clinical significance for infants with brain injury: reanalysis of outcome data from a randomized controlled study. <i>Clin Nurs Res</i> 18(2), 136-152.</p> <p>Badr, L., Garg, M., and Kamath, M. (2006). Intervention for infants with brain injury: results of a randomized controlled study. <i>Infant Behav</i> 29(1), 80-90.</p> <p>Barlow, K., Thomson, E., Johnson, D., and Minns, R. (2005). Late neurologic and cognitive sequelae of inflicted traumatic brain injury in infancy. <i>Pediatrics</i> 116(2), e174-185.</p> <p>Beers, S., Berger, R., and Adelson, P. (2007). Neurocognitive outcome and serum biomarkers in inflicted versus non-inflicted traumatic brain injury in young children. <i>J Neurotrauma</i> 24(1), 97-105</p> |
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